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			EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/059,158	MILLER ET AL.
	Examiner	Art Unit	
	Michael Le	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _31 January 2002_.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-29_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-9 and 14-25_ is/are rejected.

7) ☒ Claim(s) _10-13 and 26-29_ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _31 January 2002_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Drawings

1.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they
include the following reference character(s) not mentioned in the description: In figure 3,
reference character 340b; figure 4, reference characters 440, 450, 460 and 470; figure 5,
reference characters 520a, 520b, 520c, 530a, 530b, and 530c; figure 6, reference character 620;
figure 7, reference character 390. Corrected drawing sheets in compliance with 37 CFR
1.121(d), or amendment to the specification to add the reference character(s) in the description in
compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid
abandonment of the application. Any amended replacement drawing sheet should include all of
the figures appearing on the immediate prior version of the sheet, even if only one figure is being
amended. Each drawing sheet submitted after the filing date of an application must be labeled in
the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If
the changes are not accepted by the examiner, the applicant will be notified and informed of any
required corrective action in the next Office action. The objection to the drawings will not be
held in abeyance.

Specification

2.   The abstract of the disclosure is objected to because there is a grammatical informality.
The word --a-- has to be inserted after "for" in line 1. Correction is required. See MPEP
§ 608.01(b).

3.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

The following title is suggested: Data Accessing System With Request Validation.

4.   A section, which describes a summary of the invention, is missing. A section entitled

"Summary of the Invention" should be included after the background of the invention and before

the brief description of the drawings. The contents of the section should be written as described

below.

> (g)   Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or
> general statement of the invention as set forth in 37 CFR 1.73. The summary is
> separate and distinct from the abstract and is directed toward the invention rather
> than the disclosure as a whole. The summary may point out the advantages of the
> invention or how it solves problems previously existent in the prior art (and
> preferably indicated in the Background of the Invention). In chemical cases it
> should point out in general terms the utility of the invention. If possible, the
> nature and gist of the invention or the inventive concept should be set forth.
> Objects of the invention should be treated briefly and only to the extent that they
> contribute to an understanding of the invention.

5.   The disclosure is also objected to because of the following informalities:

6.   Para. 0003, line 1, "if" has to be changed to --is--.

7.   Para. 0006, line 5, "foe" has to be changed to --for--.

8.   Para. 0025, line 1, "240" has to be changed to --250--.

9.   Para. 0028, line 5, --be-- has to be inserted after "accordingly".

10.   Para. 0029, line 1, "365" has to be changed to --355--.

11.   Para. 0036, line 4, "During" has to be changed to --While--.

12.   Para. 0037, line 1, "710" has to be changed to --720--.

Appropriate correction is required.

Claim Objections

13.   Claims 5, 8, 15, 17 and 21 are objected to because of the following informalities:

14.   In claims 5 and 8, in line 1 in each claim, --data-- has to be inserted after "pool meta".

15.   In claim 15 and 17, in line 4 and 5 respectively, "desscription" has to be changed to --

description--.

16.   In claim 21, line 4, "udating" has to be changed to --updating--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

17.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

18.   Claims 1-5, 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

19.   Claims 1, 5 and 22 recite the limitation "the server" in claim 1, lines 1 and 3; claim 5,

lines 3 and 7; and claim 22, lines 3 and 5. There is insufficient antecedent basis for this

limitation in the claim.

20.   Claim 5 recites "at least some of" in line 1, thereafter reciting a list of three limitations.

At least some is interpreted as being more than one, therefore having two of the three listed

limitations satisfies the requirement. This interpretation is used in the prior art rejection for

claim 5 below.

21.   Claims 1 and 22 recite the limitation "the client" in claim 1, lines 1-2 and claim 22, lines

3-4. There is insufficient antecedent basis for this limitation in the claim.

22.   Claim 21 recites the limitation "the meta data" in line 4. There is insufficient antecedent

basis for this limitation in the claim. It is unclear to the Examiner, which meta data applicant is

referring to. The limitation "the meta data" could refer to either pool meta data or element meta

data or both. For the prior art rejections below, the Examiner interprets "the meta data" to be

either of the possible choices mentioned above.

23.   Claims 3-4 and 23 are rejected because they depend on a rejected claim. Dependent

claims contain the limitations of the parent claims and are therefore rejected for the same

reasons.

24.   The prior art rejections below for claims 1-9 and 14-25 are made as best understood in

light of the 35 U.S.C. 112, second paragraph rejections addressed above.

Claim Rejections - 35 USC § 101

25.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

Claims 1-5, 17-21 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological art. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological art fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a method claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble. In Bowman (Ex parte Bowman, 61 USPQ2d 1665, 1671 (BD. Pat. App. & Inter. 2001) (Unpublished), the board affirmed the rejection under U.S.C. 101 as being directed to non-statutory subject matter. Although Bowman discloses transforming physical media into a chart and physically plotting a point on said chart, the Board held that the claimed invention is nothing more than an abstract idea, which is not tied to any technological art or environment.

In the present case, claims 1-5 and 17-21 all recite an abstract idea (e.g. an algorithm or a design) at the preamble; in addition, the steps in the claim body merely recite steps performed by software. Claims 1-5 and 17-21 are merely software per se and are not tangibly embodied, making them nonstatutory.

Since the claimed invention, as a whole, is not within the technological arts as explained

above, these claims only constitute an idea and does not apply, involve, use, or advance the

technological arts, thus, it is deemed to be directed to non-statutory subject matter.

To expedite a complete examination of the instant application, the claims rejected under

35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of

applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 102

26.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.

27.   Claims 1, 2, 6, 14, 22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated

by Johnson et al. (US Patent 5,560,008) hereinafter "Johnson".

28.   In regards to claims 1 and 22, Johnson discloses a machine-accessible medium encoded

with data (Col. 5, lines 34-37)[1], the data, when accessed, causing the method comprising:

a.   receiving a handle (Fig. 4B, elements 413, 415, 423-425)[2] associated with a

version indicator sent from the server to the client (Col. 7, lines 34-54)[3];

b.   requesting a service from the server using the handle (Col. 7, lines 46-54);

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[1] The system is implemented on a server, which has a type of memory (machine-accessible medium) which stores
the program instructions that when executed, implement the system.

[2] These items sent together when the client making the request are a handle.

[3] The reply contains credentials identifier (version indicator), which is sent by the remote node (server) to the
requesting node (client). The credentials (version indicator) are then sent in an open message (fig. 4B) in order to
request data (request service).

   c.   examining the validity of the handle based on the version indicator (Fig. 7,

element 707; Col. 9, lines 40-44); and

   d.   providing, if the handle is valid, the requested service (Fig. 7, elements 708; col.

9, lines 64-67; col. 10, lines 1-2).

29.   In regards to claims 6 and 24, Johnson discloses a machine-accessible medium encoded

with data (Col. 5, lines 34-37)[4], the data, when accessed, causing the method for a server,

comprising:

   a.   waiting for a client to open a connection (Fig. 7, element 701);

   b.   generating a handle with a version indicator for the connection (Col. 7, lines 34-

54);

   c.   sending the handle to the client (Col. 7, lines 34-54);

   d.   receiving a service request from the client using the handle for a service (Col. 7,

lines 34-54);

   e.   verifying the validity of the handle based on the version indicator (Fig. 7, element

707; Col. 9, lines 40-44); and

   f.   providing, if the handle is valid, the requested service (Fig. 7, elements 708; col.

9, lines 64-67; col. 10, lines 1-2).

30.   Claim 14 contains substantially similar subject matter as claims 6 and 24. Consequently,

claim 14 is rejected for the same reasons as claims 6 and 24.

31.   In regards to claim 2, Johnson discloses the method according to claim 1, wherein the

handle includes:

a.   a version number to serve as the version indicator of the handle (Fig. 4B, element 423)[5]; and

b.   an index that points to an element data block of an allocated buffer in a data pool within the server (Fig. 4B, element 424; col. 7, lines 50-51)[6].

Claim Rejections - 35 USC § 103

32.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

33.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (US Patent 5,560,008) hereinafter "Johnson" in view of Ruane (US Patent 5,991,862).

34.   Johnson discloses the limitations of parent claims 1 and 2 as addressed above.

35.   Johnson does not expressly disclose a buffer index that points to the allocated buffer in the data pool or an element index that points to an entry in element meta data for the allocated buffer, the entry corresponding to the element data block in the allocated buffer and containing information describing the status of the element data block. Johnson does disclose including flags in a return reply handle to the client, which identifies the usage of the file being requested (Johnson: Fig. 4B, element 426; col. 7, lines 51-53). Johnson also discloses including a file

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[4] The system is implemented on a server, which has a type of memory (machine-accessible medium) which stores the program instructions that when executed, implement the system.

[5] The credentials ID (version number) serves as an authentication (version) indicator, which can expire.

[6] The file handle (index) identifies the file (element data block of an allocated buffer) to be opened from the server's storage (data pool).

handle which identifies the location of the file (Johnson: Fig. 4C, element 424; col. 7, lines 50-51).

36.   Ruane discloses generating a buffer pointer list containing at least one buffer index, each of which pointing to a corresponding buffer in data pool (Ruane: Fig. 1 shows a buffer index of pointers to data blocks in a buffer (element 10)). Ruane further discloses pointers to metadata, which contains information about the address and location of data in storage (Ruane: col. 3, lines 14-39; col. 7, lines 45-64).

37.   Johnson and Ruane are analogous art because they are from the same field of endeavor of data storage and retrieval.

38.   At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of Johnson by making the index further comprise a buffer index that points to the allocated buffer in the data pool and an element index that points to an entry in element meta data for the allocated buffer, the entry corresponding to the element data block in the allocated buffer and containing information describing the status of the element data block as taught by Ruane.

39.   The motivation for doing so would have been because having a pointer to metadata allows faster access to the data it corresponds to because it allows bypassing of addressing levels (Ruane: Col. 3, lines 43-56).

40.   Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (US Patent 5,560,008) hereinafter "Johnson" in view of Farber et al. (US Patent 5,978,791) hereinafter "Farber".

41.   In regards to claims 15 and 17, Johnson discloses the limitations of parent claim 14, with

respect to claim 15, above. Johnson further discloses a client management mechanism for

processing a service request sent from a client using a handle with a version indicator (Johnson:

Fig. 5; col. 6, lines 5-10), a plurality of data blocks for storing data that is accessible to the client

(Johnson: Col. 7, lines 55-58)[7], a handle validation mechanism for validating the handle received

from the client with the service request based on the version indicator of an element data block

indexed by the handle (Johnson: Fig. 5, element 23; col. 7, lines 46-54; 59-57; col. 8, lines 1-31)

and a data access mechanism for accessing the data blocks if the handle is valid (Johnson: col. 7,

lines 46-58).

42.   Johnson does not expressly disclose metadata for providing description and indices of the

data blocks, the description including a version number for each of the data blocks.

43.   Farber discloses a data structure containing metadata providing description and indices of

the data blocks, the description including a version number of each of the data blocks (Farber:

Fig. 3, 4; col. 8, lines 19-24, 56-67; col. 9, lines all; col. 10, lines 1-16).

44.   Johnson and Farber are analogous art because they are from the same field of endeavor of

data processing and management.

45.   At the time of the invention it would have been obvious to a person of ordinary skill in

the art to modify the system of Johnson by also having metadata for providing description and

indices of the data blocks, the description including a version number of each of the data blocks

and to also use the version number of an element data block when validating the handle.

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[7] The client requests the data by giving a data offset and a data length. This shows that there are a plurality of data
blocks and it is accessible by the client, since the client is requesting it.

46.   The motivation for doing so would have been to provide enhanced mechanisms for data

access through the use of the extra information stored, not normally stored by the operating

system (Farber: col. 7, lines 37-40; col. 12, lines 27-53). Also, Johnson discloses using an index

to retrieve the version indicator information for validating the handle, reciting that an index

allows easy retrieval of the data (Johnson: col. 8, lines 6-10).

47.   In regards to claim 16, Johnson discloses a handle generation mechanism for constructing

a handle (Johnson: col. 7, lines 34-45).

48.   Johnson does not expressly disclose a metadata update mechanism for updating the

metadata.

49.   Farber further discloses update mechanism, which allows updating a file with new

contents (Farber: col. 25, lines 59-61). The update mechanism is invoked to update a cache

(metadata) when a new data item is added to the registry (Farber: col. 15, lines 5-20).

50.   Johnson and Farber are analogous art because they are from the same field of endeavor of

data processing and management.

51.   At the time of the invention it would have been obvious to a person of ordinary skill in

the art to modify the system of Johnson by adding a metadata update mechanism for updating the

metadata and to construct the handle based on the metadata taught by Farber.

52.   The motivation for doing so would have been because it is desired to have the most

recent information, especially if the information is essential for facilitating other features of a

system, such as creating a handle for accessing the data or services stored on the system.

53.   In regards to claim 18, Johnson discloses a plurality of data blocks as addressed above.

54.   Johnson does not expressly disclose that the data blocks are organized into a set of allocated buffers, each of which includes a plurality of element data blocks.

55.   Farber discloses a file system for storing data blocks organized with directories (buffers), each of which include a plurality of data blocks (Farber: Fig. 2).

56.   At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the system of Johnson by organizing the plurality of data blocks into a set of allocated buffers, each of which includes a plurality of element data blocks as taught by Farber.

57.   The motivation for doing so would have been because the organization allows lower level forms of data (data blocks) to be grouped into higher level elements (buffers), forming a structure that can be utilized in a data processing system (Farber: col. 5, lines 24-35).

58.   Claims 4, 5, 7-9, 19-21, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (US Patent 5,560,008) hereinafter "Johnson" in view of Ruane (US Patent 5,991,862), further in view of Farber et al. (US Patent 5,978,791) hereinafter "Farber".

59.   In regards to claims 4, 7, 23 and 25, Johnson and Ruane disclose the limitations of parent claim 3 as addressed above. Johnson discloses the limitations of parent claims 6, 22 and 24 as addressed above. Ruane further discloses generating a buffer pointer list containing at least one buffer index, each of which pointing to a corresponding buffer in data pool (Ruane: Fig. 1 shows a buffer index of pointers to data blocks in a buffer (element 10)).

60.   Johnson and Ruane do not expressly disclose generating pool metadata that describes the

data pool and generating element metadata for each corresponding buffer, containing a plurality

of entries, each of which associates with an element data block in the corresponding buffer and

includes a version number, indicating the version of the element data block, a usage flag,

indicating whether the element data block is currently in use, as well as an element pointer that

specifies the location of the element data block in the corresponding buffer.

61.   Farber discloses data structures containing metadata. The metadata includes a time of

last modification (version number), a lock flag (usage flag) and a pathname and region ID

(location of the data block in storage) (Farber: Fig. 3, 4; col. 8, lines 56-67; col. 9, lines all, col.

10, lines 1-16). Farber further discloses a size of a data item, which is defined for each

implementation of Farber's invention (Farber: col. 14, lines 4-6). The size of a data item (buffer

size factor) coupled with a data segment (size of a data block), a fixed sequence of bytes (Farber:

col. 5, lines 52-54), can be used to determine the number of data segments (data blocks) in a data

item (buffer) using simple mathematics. Furthermore, the number of data items (buffers) that

can be allocated in the storage of the server is limited by the size of the storage (quantity factor)

on the server. Since storage devices have a fixed storage size, it is obvious to have the

information accessible for determining the total number of data items that can be allocated in

order to prevent possible errors.

62.   Johnson, Ruane and Farber are analogous art because they are all directed towards the

same field of endeavor of data processing and management.

63.   At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to modify the combined method of Johnson and Ruane, by adding the steps of generating

pool metadata that describes the data pool and generating element metadata for each

corresponding buffer, containing a plurality of entries, each of which associates with an element

data block in the corresponding buffer and includes a version number, indicating the version of

the element data block, a usage flag, indicating whether the element data block is currently in

use, as well as an element pointer that specifies the location of the element data block in the

corresponding buffer as taught by Farber, and performing the steps prior to receiving a handle.

64.   The motivation for doing so would have been to provide enhanced mechanisms for data

access through the use of the extra information stored, not normally stored by the operating

system (Farber: col. 7, lines 37-40; col. 12, lines 27-53). Also, storing information about how to

directly access data is desirable, as it allows bypassing of unnecessary steps, resulting in faster

data access (Ruane: col. 3, lines 50-56). The motivation for performing the steps prior to

receiving a handle would have been because it is obvious to define data structure and metadata

before allowing data access to facilitate faster and more efficient data access.

65.   In regards to claims 5 and 8, two of the limitations have been addressed in the rejection to

claim 4 above. Farber discloses a size of a data item, which is defined for each implementation

of Farber's invention (Farber: col. 14, lines 4-6). The size of a data item (buffer size factor)

coupled with a data segment (size of a data block), a fixed sequence of bytes (Farber: col. 5, lines

52-54), can be used to determine the number of data segments (data blocks) in a data item

(buffer) using simple mathematics. Furthermore, the number of data items (buffers) that can be

allocated in the storage of the server is limited by the size of the storage (quantity factor) on the

server. Since storage devices have a fixed storage size, it is obvious to have the information

accessible for determining the total number of data items that can be allocated in order to prevent

possible errors.

66.   In regards to claim 9, Johnson discloses a version number to serve as the version

indicator of the handle (Fig. 4B, element 423)[8] and an index that points to an element data block

of an allocated buffer in a data pool within the server (Fig. 4B, element 424; col. 7, lines 50-51)[9].

67.   Johnson does not expressly disclose an element index that points to an entry in element

meta data for the allocated buffer, the entry corresponding to the element data block in the

allocated buffer and containing information describing the status of the element data block.

Johnson does disclose including flags in a return reply handle to the client, which identifies the

usage of the file being requested (Johnson: Fig. 4B, element 426; col. 7, lines 51-53).

68.   Ruane discloses pointers to metadata, which contains information about the address and

location of data in storage (Ruane: col. 3, lines 14-39; col. 7, lines 45-64). Ruane also discloses

a buffer pointer list containing at least one buffer index, each of which pointing to a

corresponding buffer in data pool (Ruane: Fig. 1 shows a buffer index of pointers to data blocks

in a buffer (element 10)).

69.   Johnson, Ruane and Farber are analogous art because they are all directed towards the

same field of endeavor of data processing and management.

70.   At the time of the invention it would have been obvious to a person of ordinary skill in

the art to modify the combined method of Johnson, Ruane and Farber by making the index of

Johnson a buffer index that points to a buffer that has been allocated in the server, as taught by

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[8] The credentials ID (version number) serves as an authentication (version) indicator, which can expire.

Ruane and further adding an element index that points to an entry in element meta data for the

allocated buffer, the entry corresponding to the element data block in the allocated buffer and

containing information describing the status of the element data block also taught by Ruane.

71.   The motivation for doing so would have been because having a pointer to metadata

allows faster access to the data it corresponds to because it allows bypassing of addressing levels

(Ruane: Col. 3, lines 43-56). Also, Johnson already discloses an index pointing to data blocks in

an allocated buffer in the storage of the server for direct data access, which allows faster

performance (Johnson: col. 8, lines 8-10).

72.   In regards to claim 19, Farber data structures containing metadata. The metadata

includes a time of last modification (version number), a lock flag (usage flag) and a pathname

and region ID (location of the data block in storage) (Farber: Fig. 3, 4; col. 8, lines 56-67; col. 9,

lines all, col. 10, lines 1-16).

73.   Johnson and Farber do not expressly disclose a buffer pointer list included in the

metadata.

74.   Ruane discloses a buffer pointer list containing at least one buffer index, each of which

pointing to a corresponding buffer in data pool (Ruane: Fig. 1 shows a buffer index of pointers to

data blocks in a buffer (element 10)).

75.   Johnson, Farber and Ruane are analogous art because they are all directed towards the

same field of endeavor of data processing and management.

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[9] The file handle (index) identifies the file (element data block of an allocated buffer) to be opened from the server's
storage (data pool).

76.   At the time of the invention it would have been obvious to a person of ordinary skill in

the art to modify the combined system of Johnson and Farber by adding a buffer pointer list to

the metadata.

77.   The motivation for doing so would have been because having a pointer to metadata

allows faster access to the data it corresponds to because it allows bypassing of addressing levels

(Ruane: Col. 3, lines 43-56).

78.   In regards to claim 20, Johnson discloses a handle parsing mechanism for parsing the

handle (Johnson: col. 7, lines 34-38)[10] and a handle verification mechanism for verifying that the

version indicator extracted from the handle is consistent with the version credentials stored on

the server (Johnson: col. 7, lines 59-67; col. 8, lines 1-22).

79.   Johnson and Ruane do not expressly disclose that the handle verification mechanism

verifies that the version indicator extracted from the handle is consistent with the version number

of the element data block to which the handle indexes. Johnson does disclose the handle

including a data offset and data length (Johnson: Fig. 4C), which shows the location of the data

block (indexes the data block).

80.   Farber discloses a data structure containing metadata providing description and indices of

the data blocks, the description including a version number of each of the element data blocks

(Farber: Figs. 3, 4; time of last modification reads on version number; col. 8, lines 19-24)[11].

81.   Johnson, Ruane and Farber are analogous.art because they are from the same field of

endeavor of data processing and management.

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[10] The remote machine (server) authenticates (parses) the client using the information passed through in the handle.

82.   At the time of the invention it would have been obvious to a person of ordinary skill in

the art to modify the combined system of Johnson and Ruane by adding the step of further

verifying the version indicator extracted from the handle against the version number of the

element data block, taught by Farber, to which the handle indexes.

83.   The motivation for doing so would have been because having a second validation

criterion would increase the validation integrity and it would also ensure that the correct handle

is being used. An expired handle would be denied access (Johnson: col. 9, lines 37-45).

84.   In regards to claim 21, Johnson and Ruane do not expressly a buffer allocation

mechanism for allocating a new buffer, when there is no available element data block in the

allocated buffers, to generate a new allocated buffer, a metadata update mechanism for updating

the metadata, either when a new allocated buffer is generated or when the connection with the

client is closed to generate updated metadata and a handle generation mechanism for

constructing a handle based on the updated metadata. Johnson does disclose a handle generation

mechanism for constructing a handle (Johnson: Col. 7, lines 34-45).

85.   Farber discloses adding a new data item (allocating a buffer) to a registry when the data

item does not exist (Farber: col. 14, lines 41-47). Farber further discloses update mechanism,

which allows updating a file with new contents (Farber: col. 25, lines 59-61). The update

mechanism is invoked to update a cache (metadata) when a new data item is added to the registry

(Farber: col. 15, lines 5-20).

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[11] The directory extensions table is indexed by a pathname, which is included in the metadata as seen in figure 3.

86.   Johnson, Ruane and Farber are analogous art because they are from the same field of

endeavor of data processing and management.

87.   At the time of the invention it would have been obvious to a person of ordinary skill in

the art to modify the combined system of Johnson and Ruane by adding a buffer allocation

mechanism for allocating a new buffer, when there is no available element data block in the

allocated buffers, to generate a new allocated buffer, a metadata update mechanism for updating

the metadata when a new allocation buffer is generated and having the handle generation

mechanism construct a handle based on the updated metadata taught by Farber.

88.   The motivation for doing so would have been because if the needed information for

validating a handle is not available, then new information needs to be created (Johnson: col. 37-

45). Also, updating the metadata, which describes the information to reflect the newly created

information is desired to keep the system using the most recent information, thereby avoiding

errors.

Allowable Subject Matter

89.   The following is a statement of reasons for the indication of allowable subject matter:

Claims 10-13 and 26-29 contain allowable subject matter for the following reasons.

90.   In regards to the limitations recited in claims 10 and 26, the step of obtaining a version

number and an element index of the available element data block from the element metadata of

the allocated buffer, and a buffer index of the allocated buffer from the buffer pointer list is

unique to this invention. Roy (US Patent 4,630,030) discloses determining (identifying) ·

available memory blocks, version numbers and index values for the data blocks (Roy: Figs. 6, 7;

col. 7, lines 18-61; col. 10, lines 50-58), however Roy does not use the information for

generating a handle as the instant invention does. Johnson et al. (US Patent 5,560,008),

hereinafter "Johnson", does disclose generating a handle but does not disclose identifying an

available memory data block (element data block) and obtaining the version number, element

index and buffer index *of the available memory (element) data block* (emphasis added) in order

to generate the handle. Johnson, instead, discloses generating the handle using the information

credentials sent to the server by the client (Johnson: col. 7, lines 34-45).

91.   Claims 10 and 26 are objected to as being dependent upon rejected base claims 9 and 24

respectively, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

92.   Dependent claims 11-13 being further limiting to dependent claim 10 and dependent

claims 27-29 being further limiting to dependent claim 26, definite and enabled by the

Specification would also be allowed if their respective dependent claims 10 and 26 are rewritten

in independent form including all of the limitations of the base claims and any intervening

claims.

Conclusion

93.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. The prior art and its pertinence are as follows.

94.   Johnson et al. (US Patent 4,887,204) discloses a system for accessing remote files.

Solton et al. (US Patent 5,493,728) discloses a client-server system where the client version of

data is periodically made invalid, forcing the client to update its data with the server. Herrmann

et al. (US Patent 5,737,536) discloses a client-server system for multi-user access to data stored

on a centralized server. Bellemore et al. (US Patent 6,088,728) discloses a system that stores

user session data in data storage on the server for use in future client requests. Xu et al. (US

Patent 6,324,581) discloses a file server system which implements controlled client access. Kido

(US Patent 6,571,254) discloses a system for controlling access to a stored object. Jiang et al.

("SIMS: A Secure Information Management System for Large-Scale Dynamic Coalitions",

2001) discloses a client-server system with controlled access to data using authentication through

digital signatures.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Michael Le whose telephone number is 571-272-7970. The

examiner can normally be reached on Mon-Thurs : 9:30am-6pm, Fri: 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ML

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PRIMARY EXAMINER